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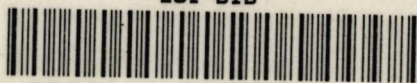
**Changes in Educational Opportunities  
in the Federal Republic of Germany.  
A Longitudinal Study of Cohorts  
Born Between 1916 and 1965**

HANS-PETER BLOSSFELD

European University Institute, Florence



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**EUROPEAN UNIVERSITY INSTITUTE, FLORENCE**  
**DEPARTMENT OF POLITICAL AND SOCIAL SCIENCES**

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**BADIA FIESOLANA, SAN DOMENICO (FI)**

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European University Institute  
Badia Fiesolana  
I-50016 San Domenico (FI)  
Italy



## 1. Introduction

In the 1960s and early 1970s, no other topic in sociological research attracted as much interest in the Federal Republic of Germany as the question of educational inequalities. A series of empirical studies provided evidence that there were great differences in educational attainment by social origin and sex (see, e.g., Edding 1963; Picht 1964; Jürgens 1964; Grimm 1966; Peisert 1967; Baur 1972; Dahrendorf 1965; Müller 1975; Müller/Mayer 1976). The findings of these studies often were used as arguments by policy makers to expand the educational system and to introduce school reforms in the 1960s and early 1970s.

Since that time, however, public and sociological interest in inequalities in educational opportunities has steadily declined. One reason is that issues have changed in West Germany during the last two decades. Compared to the past, the question of the inequality of education was considered as much less important than were the problems that people encountered when they moved from the educational to the employment system in the late 1970s and early 1980s (e.g., problems of youth unemployment or problems of "proletarianization" of young graduates (see Blossfeld 1985, 1989; Meulemann 1990)). Another reason is that more and more people seem to believe that educational expansion and school reforms have led to a clear decrease in both, sexual and social educational inequalities. Many German sociologists assume, for example, that educational expansion has loosened traditional dependence of education on social origin and sex and has increased what Ulrich Beck (1987) calls the degree of "individualization".

And indeed, there are several recent studies for the Federal Republic of Germany which show that there has been an impressive equalization in educational opportunities of men and women (see, e.g., Blossfeld 1985, 1987, 1988; Handl 1985; Köhler 1986). Today, for example, there are no significant differences in the enrolment rate of girls and boys in upper secondary schools (Gymnasien) (Köhler 1986). However, as far as differences in educational attainments among persons from different socioeconomic origins are concerned, the impact of educational expansion is still unclear for the Federal Republic of Germany. There is only one study by Johann Handl (1985) for the period until the beginning of the 1980s. He found that the overall dependence of the level of educational attainment on social origin did not change across several selected birth cohorts. Yet one could argue that this study may have come too early to observe any substantial impact of educational expansion because West Germany was a late-comer in the process of expansion of secondary and tertiary levels of education (Max Planck Institute for Human Development and Education 1979:70).

The aim of this paper is therefore to examine the influence of social origin on educational opportunities on the basis of a continuous succession of birth cohorts born between 1916 and 1965. These cohort comparisons not only reflect the most recent impact of educational expansion in the Federal Republic of Germany, but

can also be used to examine the long-term development of educational attainment across a very broad range of birth cohorts.

The paper is part of an international comparative project on change in the educational attainment process in 12 countries which is aimed to examine change and stability in the effects of social origins across cohorts for a heterogeneous set of industrialized societies<sup>1</sup>.

The empirical analysis is based on data from the German Socioeconomic Panel (GSP), one of the most important panel studies ever established in the Federal Republic of Germany (Krupp 1985; Hanefeld 1987). The sample provides information representative for the entire population of West Germany. The GSP was started in 1984, and since then in each year there has been a further wave.

The paper is organized as follows. I first discuss the concept of educational opportunity and give some background information about the educational system in the Federal Republic of Germany. I then describe the data, the variables and the models I use in order to examine the impact of social origins on educational opportunities. Finally, I report the results of the analyses and draw some general conclusions.

## **2. The concept of educational opportunity**

Despite very frequent usage, opportunity is not a precisely defined sociological concept (Sorensen/Blossfeld 1989:87). However, most sociologists would agree that an educational opportunity is the chance to get the educational degree one wants.

As Aage B. Sorensen (1975, 1986) pointed out, one should therefore not measure opportunities by the outcomes obtained. Two pupils may have the same educational opportunities and realize very different educational attainments because of differences in effort, mental ability, or luck. To measure how many educational opportunities are provided to someone, it is thus necessary to measure how many educational chances are presented, not how these chances are used. In the context of the educational system the relevant outcomes are educational attainments. Therefore, measurement of opportunities is measurement of chances to attain a specific educational level, rather than measurement of the level of educational attainment a person has obtained as a result of stepwise transition process in the educational system

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<sup>1</sup> The remaining countries (and authors) are: Czechoslovakia (Petr Mateju and Marek Boguszak), Great Britain (Alan Kerckhoff and Jerry Trott), Hungary (Peter Robert), Israel (Yossi Shavit), Italy (Antonio Cobalti), Japan (Donald Treiman and Kazuo Yamaguchi), the Netherlands (Harry Ganzeboom and Jaap Dronkers), Poland (Irenusz Bialecki and Barbara Heynes), Sweden (Jan Jonsson), Taiwan (Shu-ling Tsai and Hei-Zuan Chiu), and the US (Michael Hout and Adrian Raftery).



(Blossfeld, 1990a).

However, using the highest level of educational attainment as the dependent variable in linear regressions has been the standard methodological solution for studying educational inequality in the past (see, e.g., Duncan 1967; Duncan et al. 1972; Sewell/Hauser 1975; Müller/Mayer 1976). Conceptually, this means that equality of educational opportunity was measured as a particular pattern of association between persons' social origins and their educational attainments. However, it is not clear, as Sorensen (1986) points out, that anybody actually believes that a person's educational attainment will increase by an amount  $b$  if, for example, father's socioeconomic status increases with a unit, where  $b$  is a parameter of educational attainment models. If a person increases his socioeconomic resources there should be a position in the educational system for him to move (Sorensen 1983). Something is therefore missing from these educational attainment models, "... what is usually lumped under the general rubric of 'structure'" (Sorensen, 1986:83). However, the problem is not simply that status attainment models fail to include structural variables, they also do not direct their attention to the process of movement itself. "In other words, status attainment work eschewed a theoretical analysis of the process of movement in favor of a correlational analysis of its outcomes." (Skvoretz, 1984)

Thus, I agree with Aage B. Sorensen (1983) that we have to separate the actual achievement of people from the measurement of the opportunities provided by the school and university system when obtaining these attainments. However, with some notable, but esoteric, exceptions (White 1970), it is only possible to observe what people actually do rather than what they could have done. In the educational system, it is usually only possible to measure actual transitions between successive levels of educational attainment, and not the transitions that could have taken place.

The separation of educational opportunities from actual educational attainment, however, may be achieved by specifying the mechanisms of how educational opportunities and characteristics of individuals or families interact in producing educational attainments. In an influential paper Robert Mare (1981) suggested to focus on the process that generates educational attainments over the educational career. These attainments are produced in the educational system by a stepwise selection process. Societies may provide expanding (or declining) opportunities as a result of changes in the structure of selection processes at different educational transitions. Focussing on the main educational transition for a continuous succession of birth cohorts should therefore better allow identifying changes in educational opportunities than using the overall dependence of the highest level of educational attainment.

A direct focus on each educational transition also permits the analysis of how characteristics of the family of origin interact with structural opportunities in the educational system in producing observed educational attainments.

In his paper, Robert Mare (1981) reports for the United States that (1) the overall dependence of the level of educational attainment on social origins (in traditional educational attainment models) were more or less stable across cohorts; and (2) the effect of social origin on making each educational transition has actually increased from early birth cohorts to the more recent ones. This let him conclude that "... the stability of the stratification process, as represented by linear (educational attainment /H.-P. B.) models, results from the offsetting influences of, on the one hand, decreasing variance in the schooling distribution that exerts downward pressure on estimated linear effects and, on the other hand, increased associations between socioeconomic background and grade progression that tend to increase the linear effects. The linear (educational attainment /H.-P. B.) model, therefore, summarizes two offsetting trends, and thereby conceals important social change". (Mare 1981:83)

Given Mare's argumentation, it is therefore not possible to infer from a change in the effects of social origins in the linear regression model that a change in the association between social background and educational opportunities has taken place. For example, due to increases in the transition probabilities at different levels in the educational system, persons may achieve higher levels of educational attainment without having experienced decreasing associations between social background and grade progressions, and persons who experience decreasing associations between social background and grade progressions may not attain higher educational attainments if there is a decrease in the overall continuation probabilities at different levels in the educational system.

Of course, we know that in the course of educational expansion at least some of the grade probabilities must have increased. This means two things: (1) if we find an unchanged influence of social background in the linear regression model of highest educational level completed, then there should be an increasing effect of social origin at least at one of the transition levels; and (2) if we find a decreasing influence of social background in the linear regression model of highest educational level completed, then a decreasing, an unchanged or even an increasing association between social background and grade progression at different levels in the educational system could in principle be possible.

Up to now, Robert Mare's study has been replicated for several countries (Treiman/Yamaguchi 1990)<sup>2</sup>. Although the results of these studies are very complex, there seems to be a quite universal pattern: despite a systematic increase in average schooling levels across cohorts in the course of educational expansion,

<sup>2</sup> For France by Garnier and Raffalovich (1984), for Hungary by Simkus and Andorka (1982), for Ireland by Hout and Raftery (1989), for Italy by Cobalti (1990) and for the Philippines by Smith and Cheung (1986).



there has been a surprising stable effect of social origin on almost all of the educational transitions. The main purpose of this paper is therefore to examine whether this pattern can also be found in the Federal Republic of Germany.

### 3. The educational system in West Germany

The basic structure of the educational system in West Germany was established in the 19th century (Lundgreen 1980, 1981) and can be considered - even after the educational reforms of the 1960s and early 1970s - as largely unchanged up until today (Max Planck Institute for Human Development and Education 1979:67-70; Leschinsky/Mayer 1990)<sup>3</sup>.

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Insert figure 1 about here  
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Figure 1 illustrates the basic structure of the West German educational system and its two main features that continue to set it apart from those of most other industrialized countries: (1) the coexistence of three types of secondary schools - the lower secondary school (Volks- or Hauptschule); the middle school (Mittelschule or Realschule); and the upper secondary school (Gymnasium or Fachoberschule) - following a four-year primary level; and (2) the continued importance of a type of vocational education that is partly enterprise based and partly school based (the "dual system").

The most important transitions in a German's educational career are, therefore, (1) the transitions to middle school and upper secondary school, and (2) the transitions from secondary school to vocational training and university training.

After leaving the West German tripartite structure of the general educational system with lower secondary school qualification (from the "Hauptschule" or the former "Volksschule," after eight or nine years of school), intermediate school qualification (from the "Realschule," after 10 years of school), or upper secondary school qualification (from a "Fachoberschule," after 12 years of school or from a "Gymnasium," after 13 years of school), young people must decide whether they want to find employment immediately as "unskilled employees" or to undertake vocational training.

Generally, the West German vocational training system can be divided into three relevant subsystems: (a) the "dual system", (b) the vocational schools that offer complete vocational

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<sup>3</sup> Since the 1970s there have been efforts to institutionalize a comprehensive type of secondary school throughout the Federal Republic of Germany, however with only very limited success (see, e.g., Max Planck Institute for Human Development and Education 1979).

training, and (c) the institutions of higher education.

The vast majority of juveniles leaving school with lower secondary school qualification or intermediate school qualification begin their vocational training in the "dual system". This training takes place in both privately owned and state owned and operated enterprises and is complemented by instruction given in part-time vocational schools financed and run by the state. Through apprenticeships lasting two or three years, juveniles learn an occupation that is officially recognized as requiring training and become skilled workers, clerks, or journeymen in various trades.

Whereas an appreciably larger number of young men than young women are qualified in the "dual system", greater numbers of young women receive their vocational training in full-time vocational schools. There are four kinds of these schools. One kind offers complete training in occupations officially recognized as requiring special training and can, therefore, substitute its training for that given in the "dual system". Another kind offers training that can be accepted as part of a corresponding apprenticeship. A third type of vocational school provides training in occupations not covered by the dual system. And a fourth type consists of technical schools that are intended to deepen already acquired specialized vocational training.

Finally, there are the institutions of higher education. These are professional colleges (the former Ingenieurschulen or Fachhochschulen) and universities that require an upper secondary school qualification (Fachhochschulreife or Abitur).

It is characteristic for the West German educational system that the process of educational selection starts relatively early in peoples' lives and is then more or less irreversible during the later educational career (Blossfeld 1990a). This suggests that from lower secondary school to middle school and from middle school to upper secondary school and finally from upper secondary school to professional college or university, people become increasingly homogeneous in terms of their social origins. We therefore expect that the effect of social origins on the probability to make the transition should decrease over these successive steps of educational selection. Although the expansion of the institutions of "second chance education" have somehow broken up the defining character of early educational decisions after the educational reforms in the 1960s and 1970s, by far they did not offset the effects of early educational selections (Blossfeld 1990a).

If the hypothesis of Robert Mare (1981) is true for the Federal Republic of Germany too, then we should observe in the course of educational expansion two more or less offsetting influences of, on the one hand, decreasing variance in the schooling distribution and, on the other hand, increased associations between socioeconomic background and grade progressions.



#### 4. Data, variables and models

##### Data

The analysis reported is based on data from the German Socio-economic Panel (GSP). The GSP is a longitudinal project that is part of Sonderforschungsbereich 3 "Micro-analytical Foundations of Social Politics" (Mikroanalytische Grundlagen der Gesellschaftspolitik) of the Universities of Frankfurt am Main and Mannheim and has since 1983 been located at the German Institute for Economic Research (Krupp 1985; Hanefeld 1987).

The aim of the GSP is to produce a representative longitudinal data base for the Federal Republic of Germany, to be used in the analysis of a broad range of socioeconomic questions. The first data collection was carried out in 1984, and in each year since there has been a further panel wave. Analyses in this paper use data of German respondents from the panel waves between 1984 and 1988. In the first wave, 12,245 persons from 5,921 households were questioned. There is extensive methodological literature on the GSP (see, e.g., Hanefeld 1987; Rendtel 1988, 1989).

The GSP data have the advantage of addressing our research question that they provide representative information about education and social origin for a broad range birth cohorts including the most recent birth cohorts<sup>4</sup>.

##### Variables

In order to study the change of the overall level of educational attainment across cohorts, we use a combination of general schooling and vocational training and assign to each of these levels the average number of years required to obtain them (Blossfeld 1985):

- (1) lower secondary school qualification without vocational training (9 years);
- (2) lower secondary school qualification with vocational training (11 years);
- (3) intermediate school qualification without vocational training (10 years);
- (4) intermediate school qualification with vocational training (12 years);
- (5) upper secondary school qualification (Fachhochschulreife or Abitur) (12 or 13 years);

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<sup>4</sup> However, it seems that compared to microcensus data (Handl 1985), the distribution of educational qualifications is a little bit distorted towards higher educational attainments, especially for men.

- (6) professional college qualification (17 years); and
- (7) university degree (19 years).

Unfortunately, the GSP data do not include detailed educational histories for all birth cohorts. That means that we must reconstruct the process of educational transitions over the life course on the basis of respondents' highest levels of general schooling and vocational training. However, this is no major problem since the educational attainments in West Germany are strongly hierarchical ordered (see Figure 1). In our analysis we differentiate and study the following four major transitions:

- (1) the transition from lower secondary school qualification to intermediate school qualification;
- (2) the transition from intermediate school qualification to upper secondary school qualification (Fachhochschulreife or Abitur);
- (3) the transition from upper secondary school qualification (Fachhochschulreife or Abitur) to professional college qualification or university degree; and
- (4) the transition from lower secondary school qualification (Volksschul- or Hauptschulabschluß) or intermediate school qualification (Mittlere Reife) to vocational training.

The independent variables include measures of father's schooling, father's occupation, cohort membership, and sex.

Father's schooling is also measured on the basis of a combination of the highest general and vocational qualifications, and we have again assigned the average number of school years required to obtain them (compare the detailed description above).

Father's occupation refers to the occupation when the respondent was 15 years old. It is measured as his socioeconomic prestige value on the Wegener's (1985) magnitude prestige scale. This measure of status is somewhat similar to the Duncan SEI in content, and with excellent psychometric properties. It is obtained from magnitude scaling of occupations of a representative German sample. In deriving scores for occupations not directly rated, Wegner used an idea suggested in Sorensen (1979) of using a ranking of occupations to establish a metric that procudes an exponential distribution of occupational positions.

Our analysis studies the change in educational attainment during a historical period of about 50 years. The oldest cohort studied were born between 1916 and 1921 and made their educational career during the period stretching from the late 1920s to the late 1940s. Thus, they were enrolled in school and universities during the Third Reich and the turbulence generated



by the Second World War. The youngest cohort analysed were born between 1961 and 1965 and have been making their educational careers from around the 1970s up until today. Thus, they experienced their school careers during a period of high educational expansion and economic uncertainty. We used a set of dummy variables each representing five-year birth cohorts from 1916-20, 1921-25 ,..., to 1961-65 (reference group = cohort 1916-20) to study the change in educational attainment as continuously as possible.

All computations were made separately for men and women so that we can evaluate the full range of interactions between social class and sex.

### Methods

After presenting tables about the changes in educational attainment of women and men from selected birth cohorts, first we will estimate the traditional linear regression model of family-background effects on highest level of education completed (see, e.g., Duncan 1967; Duncan et al. 1972; Sewell/Hauser 1975).

As Robert Mare (1981) ingeniously demonstrated in his paper, the linear  $\beta$ -effects of this regression model depend both (1) upon the overall continuation probabilities at different levels in the educational system and (2) upon the associations between social background and grade progression at different levels in the educational system. In a second step we will therefore first study the overall grade progression probabilities for the above mentioned four main transitions in the West German educational system and then estimate for each of these transitions logit models which include measures of father's education and father's occupation. These logit parameters for social background are direct estimates of the associations of social background and grade progression and therefore for educational opportunities. This means that these estimates do not depend on structural changes of the educational system in the course of educational expansion.

## **5. Results**

### Overall effects of educational expansion

We start our empirical analysis by asking the question: What are the overall effects of the educational expansion on women's and men's highest levels of educational attainments in successive cohorts in Germany?

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Insert table 1 about here  
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Distributions of educational attainment for women and men from successive cohorts are shown in table 1. If we compare the educational attainments of the cohort 1916-20 with those of the 1956-60 and 1961-65 cohorts, then the improvement in educational chances for women and men is clear. Both sexes have profited from the educational expansion at all higher levels of qualification. For the 1916-20 birth cohort, the proportion of women and men with lower secondary school qualification without vocational training was much larger (women: 46.6%; men: 15.8%) as it was for the 1961-65 cohort (women: 15.4%; men: 11.4%). Conversely, compared to the 1956-60 cohort, members of the 1916-20 cohort were in general less likely to have intermediate school with vocational training (women: 27.6% vs. 12.0%; men: 19.8% vs. 10.8%), Abitur (women: 13.6% vs. 2.4%; men: 14.3% vs. 7.6%), professional college qualification (women: 2.7% vs. 0.5%; men: 4.6% vs. 5.7%), or a university degree (women: 9.0% vs. 3.4%; men: 11.4% vs. 5.1%).<sup>5</sup>

In relation to levels of qualification, one observes in table 1 a long-term trend of convergence in the educational levels of men and women. But equally important is the fluctuation in this trend, which is a consequence of specific historical conditions. With regard to vocational qualification and university degrees, women and men, but especially women of the cohorts of 1926-30 and 1931-35 dropped to a level that had already been exceeded by the older women and men (the cohorts 1919-20 and 1921-25). A plausible explanation for this picture is that educational aspirations of these cohorts (and within this cohort especially of women), who were between 10 and 20 years old in the immediate postwar period, were extremely affected by economic misery, flight, expulsion, and so forth. Postwar conditions led these cohort to prefer immediate gainful employment to more vocational or university training (Blossfeld 1987).

This example shows that for understanding the process of educational expansion in the Federal Republic of Germany it may be helpful to separate the processes of general education and vocational training because both processes are governed by different mechanisms. The availability of positions at different levels in the general educational system are primarily the result of political decisions and priorities, for example, such as school reforms etc. However, the availability of vocational training places is for the most part determined by the "dual system." Because these training places are offered mainly by privately owned enterprises, they are strongly dependent on the changing economic conditions and on the business cycle.

<sup>5</sup> The 1961-65 cohort is not comparable, because in 1988, the year of the last available panel wave, many were still enrolled in professional colleges and universities.



### Changes in highest general educational attainment

If we look first at changes in highest general educational attainments across birth cohorts (table 2), then we observe a fairly stable structure of percentages for women and men until the birth cohort of 1936-40. Only beginning with the birth cohort of 1941-45 are the percentages of higher educational levels first slowly and then acceleratingly increasing. This result means two things: (1) from an international comparative point of view the Federal Republic of Germany was indeed a late-comer to the process of expansion of secondary education; and (2) that the process of educational expansion in the general educational system started already some years before school reforms were introduced in the late 1960s and early 1970s.

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Insert table 2 about here  
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From table 2 one can also see that in the general educational system a substantive progress in the convergence of educational levels for men and women across cohorts was made not before the cohort of 1946-50. This means that the convergence of general educational levels of men and women has been a quite recent phenomenon. It is a clear effect of the policy of educational expansion and educational reforms.

### Changes in highest levels of vocational qualification

Looking at the change in the highest levels of vocational qualification across birth cohorts in table 3, we observe, however, that the trend of convergence of educational attainments of men and women already started 10 years earlier - with the birth cohort of 1936-40. This finding means that women not only carried more than men the burden of the immediate postwar social and economic crises (see cohort 1931-35), but also profited more than men from the rapid economic recovery after World War II (the so-called Wirtschaftswunder - economic miracle), as well as from the steep increase in the number of trainee positions in the late 1950s (Blossfeld 1987, 1990). Women's vocational attainments in the Federal Republic of Germany are therefore more strongly affected by historical conditions.

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Insert table 3 about here  
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### Overall dependence of highest educational attainment on social origins

With these specifics of the development of general schooling and vocational training in the Federal Republic of Germany in mind, we can now ask whether the overall dependence of the highest educational attainment on social origins has changed across cohorts. For this purpose we estimated a linear regression of highest level of qualification completed on father's schooling and occupation, cohort membership, and all first-order interactions between cohort membership and father's schooling and occupation (table 4). We excluded the 1961-65 cohort from this model because in 1988, the year of the last available panel wave, many members of this cohort were still enrolled in college and university.

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 Insert table 4 about here  
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For women and for men, we observe in table 4 strong positive main effects of father's schooling and occupation and a strong negative main effect for the cohort 1931-35, the cohort which obviously suffered most in terms of educational opportunities from the postwar conditions. For men of the 1931-35 cohort the immediate postwar conditions also significantly increased the impact of father's schooling and significantly decreased the impact of father's occupation. This means, in this specific historical phase their educational opportunities were strongly dependent on "cultural capital" of the family and less on mechanisms of social class. Finally, for men there is also a significant positive main effect for the cohort 1956-60, indicating that this cohort had significantly better educational opportunities than all men before.

However, the central point of these regression equations in table 4 is that there has been no significant or clear cut trend of the interaction effects between cohort membership and father's schooling and occupation in the course of educational expansion. This means that for the Federal Republic of Germany we come to the same result that Robert Mare (1981) has found for the United States: despite an impressive increase in the average level of highest education, there is a surprising stability of father's socioeconomic background on the highest level of educational attainment. Since - as Robert Mare has demonstrated in his paper - the effects of the regression model depend on both (1) upon the associations between social background and grade progression at different levels in the educational system and (2) on the overall continuation probabilities at different levels in the educational system, we should find in the following analysis of educational transitions an increasing effect of social origin, at least at some of the transitions. However, before we present the logit models for the transitions in the educational system, we first consider the change in the transition probabilities between different educational levels across cohorts.



### Changes in transition probabilities

Table 5 shows for the four main transitions in the West German educational system the change in the overall grade progression probabilities across cohorts. There are clear sex-specific patterns of these transition probabilities. However, for each younger cohort, we also observe a considerable convergence of these sex-specific educational opportunities. As far as the transition from lower secondary school qualification to intermediate school qualification is concerned, women have even surpassed men, beginning with the cohort of 1956-60. For the other transitions, young women's transitions probabilities are becoming increasingly similar with the transition probabilities of men.

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Insert table 5 about here  
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Again, we can see that the cohorts of 1926-30 and 1931-35 were disadvantaged in their educational opportunities at all transitions by the immediate postwar conditions. The same seems to be true too for the opportunities of youngest birth cohort to achieve vocational training because of the lack of trainee positions in the Federal Republic of Germany in the early 1980s.

If we focus on the effects of the policy of educational expansion and school reforms on the transition probabilities, that means if we look at the change in the transition probabilities of cohorts born since 1946-50 in table 5, then we observe the following pattern: (1) for women and men, the transition probability to move from lower secondary school qualification to intermediate school qualification has been steadily rising (women: from 32.3% to 60.0%; men: from 38.9% to 52.3%); (2) for women and men, the transition probability to move from intermediate school qualification to upper secondary school qualification has initially increased until the cohort 1956-60 and then decreases (women: from 36.6% to 44.9% and then to 39.7%; men: from 51.8% to 58.6% and then to 55.7%); (3) for women and men, the transition probability to move from upper secondary school qualification to professional college qualification or university degree has been steadily declining (women: from 59.2% to 34.7%; men: from 59.3% to 37.6%). This means that as a result of the policy of educational expansion there has been a change in the overall selectivity pattern of the educational system in the Federal Republic of Germany: selection processes that took place before the educational reforms very early during the life course (at ages between 10 and 12) have shifted after the educational expansion to later phases of the life course (at the ages of about 18 to 20). However, as far as secondary education is concerned there has been a clear decrease in overall selecti-

vity in the West German school system for the younger birth cohorts.

At the current stage of our analysis it is, however, unclear what that means in terms of selectivity for people coming from different socioeconomic origins. We therefore estimate with a logit model the effects of social background on the transition probabilities of the four main transitions.



### Changes in the effects of social origin on transition probabilities

As discussed above, we have two basic hypotheses to test: (1) that the effect of social background is weaker for higher educational transitions because people will increasingly become homogeneous in terms of their social origins with increasing levels of education; and (2) that there is an increasing importance of social background, at least at some of these transitions.

First we study separately for women and men the effects of father's schooling and father's occupation on the transition from lower secondary school qualification to intermediate school qualification with a logit model (table 6). If we look at men born since 1946-50, there is indeed an increasing significant effect of social background on the probability to make this transition. For each younger cohort of men, the increasing overall grade progression probabilities are accompanied by an increasing effect of social background. However, if we look at women born since 1946-50, we observe the opposite trend: a decreasing importance of the effects of social origin. This result means that the educational selection process among people from the same social origins works increasingly different for men and women at this specific grade progression.

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Insert table 6 about here  
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Second, we study the effects of social background on the transition probabilities from intermediate school qualification to upper school qualification for women and men (table 7). Again, for men born since 1946-50 there is a clear increasing effect of father's schooling and father's occupation. But now, we observe an increasing effect for women too, at least as far as father's schooling of the youngest cohorts is concerned.

As hypothesised, the whole pattern of social background effects in table 7 is weaker than the pattern for the transition in table 6.

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Insert table 7 about here  
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Third, we analyse the effects of father's schooling and father's occupation on the transition from upper secondary school qualification to professional college qualification or university degree (table 8). Here, we observe no clear trend for the younger cohorts on men. Most of the effects are so

weak that they do not become significant. However, there are significant effects of social background emerging for women of the youngest birth cohorts.

Again, the whole pattern of social background effects in table 8 is weaker than the pattern in table 7.

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Insert table 8 about here  
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Finally, we also discuss the effects of social background on the transition probability from lower secondary school qualification and intermediate school qualification to vocational training in table 9. We know from table 5 that for men the overall transition probability was more or less stable between 0.8 and 0.9 across the cohorts. Only the youngest cohort of men only reached the level of 0.77 because of the lack of trainee positions in the Federal Republic of Germany at the beginning of the 1980s. If we examine the influences of social origin on this transition for men in table 9, then the pattern is very complex. In the long-run, however, it is clear that there is a decreasing influence of social origin on attaining vocational training. But, there is also a significant positive effect of father's occupation for the youngest cohort of men. This result means that the lack of trainee positions during the economic crisis of the early 1980s led to an increasing importance of social origin for men. Looking at the effects of social background for men and women of the cohorts 1926-30 and 1931-35 in tables 6 to 9, this result seems to be, however, only a special case of a more universal relationship: economic hardship increases the association between social origins and educational opportunities.

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Insert table 9 about here  
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Finally, as far as women are concerned, we know from table 5 that the overall transition probability to finish vocational training increased remarkably across cohorts from about 0.4 to more than 0.7. Table 9 in addition shows that at the same time for women there has been an impression decreasing importance of social origin too.

## 6. Summary and conclusion

Today, many German sociologists simply assume that educational expansion has loosened traditional dependence of education on social origin and sex and has increased what Ulrich Beck (1987) calls the degree of "individualization". Although there are several studies that show that this is indeed true for the



educational opportunities of men and women, there was lacking empirical evidence for the changing effects of social origin. The aim of this paper has therefore been to examine whether educational expansion has decreased the influence of social origin on educational opportunities.

On the basis of a continuous succession of birth cohorts, we studied not only the most recent impact of educational expansion in the Federal Republic of Germany, but also examined the long-term development of educational attainment.

We theoretically argued that greater insight into the impact of educational expansion may be gained by separating the actual educational attainment of people from the measurement of the opportunities provided by the school and university system when obtaining these attainments (Sorensen 1986). This separation may be achieved by specifying the mechanisms of how educational opportunities and characteristics of individuals or families interact in producing educational attainments at major educational transitions.

In a first step of our analysis, we examined changes in the distributions of educational attainment for women and men and found that both sexes have profited from the educational expansion at all higher levels of qualification. We also observed a long-term trend of convergence in the educational levels of men and women. But equally important were the fluctuation in this trend, which is a consequence of specific historical conditions. With regard to vocational qualification and university degrees, women and men of the cohorts of 1926-30 and 1931-35 dropped to a level that had already been exceeded by the older women and men (the cohorts 1919-20 and 1921-25).

In a second step of our analysis, we estimated the linear regression of highest level of qualification completed on indicators of social origin. There has been no significant or clear cut trend of the interaction effects between cohort membership and father's school and occupation in the course of educational expansion. This means that for the Federal Republic of Germany we come to the same result that Robert Mare (1981) has found for the United States: despite an impressing increase in the average level of highest education, there is a surprising stability of father's socioeconomic background on the highest level of educational attainment.

We then looked in a more detailed analysis at the effects of the policy of educational expansion and school reforms on the transition probabilities. There has been a shift in the overall selectivity of the educational system in the Federal Republic of Germany: selection processes that took place before the educational reforms at early phases of the life course (at ages between 10 and 12) have shifted after the educational re-

forms to later life course phases (at the ages of about 18 to 20). However, as far as secondary education is concerned there has been a clear decrease in overall selectivity in the West German school system across the younger birth cohorts.

In a final step of our analysis, we estimated the effects of social background on the transition probabilities of the four main transitions with logit regressions to test two basic hypotheses: (1) that the effect of social background is weaker for each higher educational transition because people will become increasingly homogeneous in terms of their social origins; and (2) that there is an increasing importance of social background at least at some of these transitions.

For men we found indeed an increasing effect of social background on the probability to make the transition from lower secondary school qualification to intermediate school qualification and from intermediate school qualification to upper secondary school qualification. This means that for each younger cohort of men, the increasing overall grade progression probabilities are to some degree offset by an increasing effect of social background. However, for men there was no effect of social origin on the transition from upper secondary school qualification to professional college qualification or university degree.

For women we observed a decreasing importance of the effects of social origin for the transition from lower secondary school qualification to intermediate school qualification, but an increasing effect of social origin for the transition from intermediate school qualification to upper secondary school qualification and from upper secondary school qualification to professional college qualification and university degree. This result means that the educational selection process among women from different social origins was increasing at the higher levels of the educational system. This is especially important for the latter transition because there is also an increasing overall selectivity at this grade progression for younger birth cohorts women.

Finally, we analyzed the effects of social background on the transition probability from lower secondary school qualification and intermediate school qualification to vocational training. For both men and women, we found a decreasing influence of social origin on finishing vocational training.

In sum, although the picture is very complex, we have found more or less the same results for West Germany that Robert Mare (1981) has found for the United States: (1) the overall dependence of the level of educational qualification on social origins (in the traditional educational attainment model) is more or less stable across cohorts; and (2) the effects of social origin on making higher educational transitions has in-



creased for the younger birth cohorts: for men mainly in the secondary school system, for women mainly in the upper secondary school system and the tertiary school system. This means that social origins continued to be a major determinant of educational opportunities in the Federal Republic of Germany.

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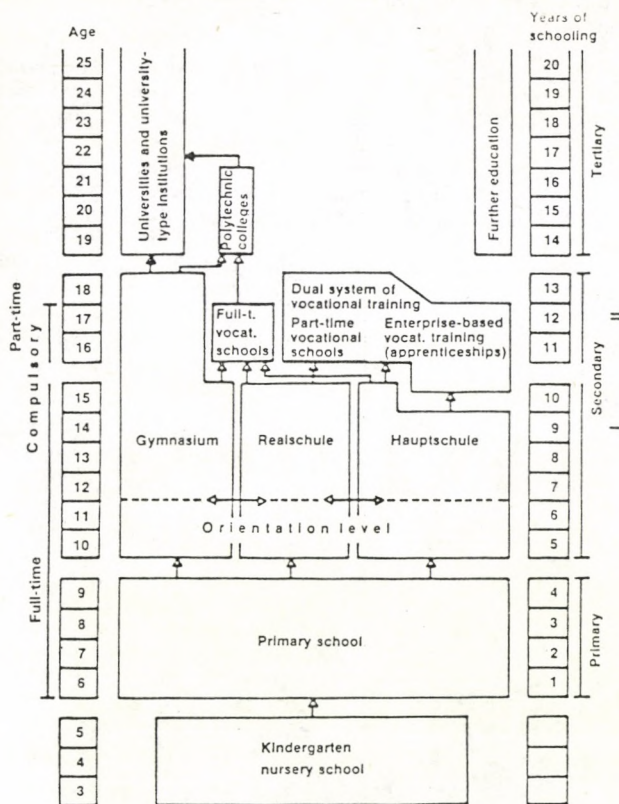
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Figure 1: Chart of the Educational System in the Federal Republic of Germany



Source: Max Planck Institute for Human Development and Education: Between Elite and Mass Education. Albany, N.Y.: State University of New York Press, 1979



Table 1: Changes in Highest Educational Attainment of Women and Men, Cohorts Born 1916-65 (Percentages)

Sex	Educational Attainment	Birth Cohort									
		1916-1920	1921-1925	1926-1930	1931-1935	1936-1940	1941-1945	1946-1950	1951-1955	1956-1960	1961-1965
Women	Lower secondary school qualification without vocational training	46.6	50.4	45.7	49.3	37.0	21.7	24.1	20.0	16.3	15.4
	Lower secondary school qualification with vocational training	30.3	28.6	32.6	28.1	37.9	46.9	43.4	37.3	28.4	24.7
	Intermediate school qualification without vocational training	4.8	3.8	3.9	3.7	1.5	2.2	2.2	3.2	2.3	7.2
	Intermediate school qualification with vocational training	12.0	11.3	11.0	11.9	18.6	19.3	17.4	22.5	27.6	29.0
	Upper secondary school qualification (Fachhochschulreife and Abitur)	2.4	2.8	2.9	2.8	1.7	3.6	2.9	5.6	13.6	21.0
	Professional college qualification	0.5	1.3	2.6	1.1	1.1	2.2	3.1	2.3	2.7	1.2
	University degree	3.4	1.8	1.3	3.1	2.2	4.1	7.0	9.2	9.0	1.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	208	391	381	353	462	414	415	445	514	572
Men	Lower secondary school qualification without vocational training	15.8	8.6	13.3	16.0	12.7	8.2	7.5	8.8	8.0	11.4
	Lower secondary school qualification with vocational training	53.8	61.4	55.8	56.4	60.4	50.8	53.2	45.7	40.9	36.1
	Intermediate school qualification without vocational training	1.3	0.8	0.9	0.6	0.2	0.3	0.0	0.5	1.1	4.3
	Intermediate school qualification with vocational training	10.8	11.6	11.3	13.8	10.0	16.9	17.3	18.3	19.8	18.6
	Upper secondary school qualification (Fachhochschulreife and Abitur)	7.6	4.5	6.2	3.1	3.5	2.9	4.7	8.8	14.3	26.4
	Professional college qualification	5.7	7.5	7.1	3.1	4.8	6.1	5.2	4.9	4.6	2.4
	University degree	5.1	5.6	5.4	7.1	8.3	14.8	12.2	13.1	11.4	0.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	158	267	353	326	518	378	427	411	526	587

Table 2: Changes in Highest General Educational Attainment of Women and Men, Cohorts Born 1916-65 (Percentages)

Sex	Educational Attainment	Birth Cohort									
		1916-1920	1921-1925	1926-1930	1931-1935	1936-1940	1941-1945	1946-1950	1951-1955	1956-1960	1961-1965
Women	Lower secondary school qualification	76.9	79.0	78.2	77.3	74.9	68.8	67.7	57.3	44.9	40.0
	Intermediate school qualification	16.8	15.9	15.5	15.9	20.8	21.7	20.5	26.1	30.4	36.2
	Upper secondary school qualification 1 (fachhochschulreife)	1.4	2.1	2.4	1.1	1.3	3.6	2.4	2.9	4.7	5.6
	Upper secondary school qualification 2 (Abitur)	4.8	3.1	3.9	5.7	3.0	5.8	9.4	13.7	20.0	18.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	208	391	381	353	462	414	415	445	514	572
Men	Lower secondary school qualification	70.3	70.0	70.5	73.3	73.6	59.3	61.1	54.5	49.1	47.7
	Intermediate school qualification	13.3	14.3	12.8	14.7	11.8	19.6	18.7	19.2	21.1	23.2
	Upper secondary school qualification 1 (fachhochschulreife)	6.3	3.4	5.1	3.7	5.2	5.3	4.7	7.1	8.2	5.3
	Upper secondary school qualification 2 (Abitur)	10.1	12.4	11.6	8.3	9.5	15.9	15.5	19.2	21.7	23.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	158	267	353	326	518	378	427	411	526	587



Table 3: Changes in Highest Vocational Qualification of Women and Men, Cohorts Born 1916-65 (Percentages)

Sex	Vocational Qualification	Birth Cohort									
		1916-1920	1921-1925	1926-1930	1931-1935	1936-1940	1941-1945	1946-1950	1951-1955	1956-1960	1961-1965
Women	Without Vocational Training	52.4	54.7	49.9	53.0	39.0	24.6	27.2	24.0	22.4	34.6
	Vocational Training	43.8	42.2	46.2	42.8	57.8	69.1	62.7	64.5	66.0	62.6
	Professional College Qualification	0.5	1.3	2.6	1.1	1.1	2.2	3.1	2.3	2.7	1.2
	University Degree	3.4	1.8	1.3	3.1	2.2	4.1	7.0	9.2	9.0	1.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	208	391	381	353	462	414	415	445	514	572
Men	Without Vocational Training	17.7	9.4	14.2	16.9	12.9	8.7	8.2	11.0	15.4	35.1
	Vocational Training	71.5	77.5	73.4	73.0	73.9	70.4	74.5	71.1	68.6	61.7
	Professional College Qualification	5.7	7.5	7.1	3.1	4.8	6.1	5.2	4.9	4.6	2.4
	University Degree	5.1	5.6	5.4	7.1	8.3	14.8	12.2	13.1	11.4	0.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	158	267	353	326	518	378	427	411	526	587

**Table 4: Regression Analysis of Highest Educational Attainment of Women and Men, Cohorts Born 1916-65**

	Women		Men	
	$\beta$ -estimate	t-value	$\beta$ -estimate	t-value
Intercept	6.549**	5.08	5.820**	4.89
Father's Schooling	0.353**	2.48	0.241**	2.02
Father's Occupation	0.028**	2.40	0.036**	3.12
Cohort 1956-60	1.235	0.83	2.249*	1.66
Cohort 1951-55	2.064	1.35	1.354	1.00
Cohort 1946-50	0.448	0.29	-0.343	-0.25
Cohort 1941-45	1.246	0.79	1.424	1.02
Cohort 1936-40	0.409	0.27	-0.567	-0.41
Cohort 1931-35	-2.808*	-1.70	-2.747*	-1.92
Cohort 1926-30	0.838	0.54	-0.781	-0.53
Cohort 1921-25	-2.247	-1.38	-0.189	-0.13
Father's Schooling * 1956-60	0.098	-0.59	-0.012	-0.09
Father's Schooling * 1951-55	-0.167	-0.96	0.114	0.81
Father's Schooling * 1946-50	0.070	0.41	0.213	1.53
Father's Schooling * 1941-50	-0.098	-0.57	0.057	0.40
Father's Schooling * 1936-40	-0.093	-0.55	0.104	0.74
Father's Schooling * 1931-35	0.239	1.34	0.417**	2.72
Father's Schooling * 1926-30	-0.131	-0.76	0.118	0.77
Father's Schooling * 1921-25	0.217	1.17	0.086	0.58
Father's Occupation * 1956-60	0.007	0.48	-0.006	-0.47
Father's Occupation * 1951-55	0.012	0.81	-0.024	-1.77
Father's Occupation * 1946-50	-0.011	-0.79	-0.020	-1.51
Father's Occupation * 1941-50	0.009	0.61	-0.022	-1.66
Father's Occupation * 1936-40	0.011	0.75	-0.009	-0.67
Father's Occupation * 1931-35	0.007	0.39	-0.036**	-2.37
Father's Occupation * 1926-30	0.012	0.82	-0.009	-0.65
Father's Occupation * 1921-25	-0.001	-0.08	-0.021	-1.47
R <sup>2</sup>	0.28		0.25	
N	2214		1985	

\*\* significant at 0.05 level

\* significant at 0.10 level



Table 5: Changes in Transition Probabilities of Women and Men, Cohorts Born 1916-65 (Percentages)

Sex	Educational Transitions	Birth Cohort									
		1916-1920	1921-1925	1926-1930	1931-1935	1936-1940	1941-1945	1946-1950	1951-1955	1956-1960	1961-1965
Women	who made the transition from Lower Secondary School Qualification to Intermediate School Qualification	23.1	21.0	21.8	22.7	25.1	31.2	32.3	42.7	55.1	60.0
	who made the transition from Intermediate School Qualification to Upper Secondary School Qualification (Fachhochschulfreife and Abitur)	27.1	24.4	28.9	30.0	17.2	30.2	36.6	39.7	44.9	39.7
	who made the transition from Upper Secondary School Qualification (Fachhochschulfreife or Abitur) to Professional College Qualification or University Degree	53.9	30.0	20.8	45.8	45.0	43.6	59.2	54.1	34.7	-
	who made the transition from Lower Secondary School Qualification and Intermediate School Qualification to Vocational Training	45.1	42.4	46.8	43.0	59.5	73.5	69.9	69.8	75.0	70.4
Men	who made the transition from Lower Secondary School Qualification to Intermediate School Qualification	29.7	30.0	29.5	26.7	26.4	40.7	38.9	45.5	50.9	52.9
	who made the transition from Intermediate School Qualification to Upper Secondary School Qualification (Fachhochschulfreife and Abitur)	55.3	52.5	56.7	44.8	55.5	52.0	51.8	57.8	58.6	55.7
	who made the transition from Upper Secondary School Qualification (Fachhochschulfreife or Abitur) to Professional College Qualification or University Degree	30.8	35.5	30.5	59.0	51.3	66.3	59.3	48.2	37.6	-
	who made the transition from Lower Secondary School Qualification and Intermediate School Qualification to Vocational Training	79.1	88.6	82.6	80.9	84.5	88.8	90.4	87.4	86.9	77.7

Table 6: Effects of Father's Schooling and Father's Occupation on the Transition Probability from Lower Secondary School Qualification to Intermediate School Qualification for Women and Men, Cohorts Born 1916-65 (Logit Model)

Birth Cohort	Women			Men		
	Intercept	Father's Schooling	Father's Occupation	Intercept	Father's Schooling	Father's Occupation
1961-1965	-5.69**	0.530**	0.005	-7.46**	0.452**	0.043**
1956-1960	-2.58**	0.180**	0.016**	-3.40**	0.149*	0.036**
1951-1955	-4.68**	0.319**	0.020**	-3.05**	0.144*	0.027**
1946-1950	-4.74**	0.180**	0.039**	-5.19**	0.353**	0.018**
1941-1945	-4.07**	0.194**	0.020**	-3.29**	0.149*	0.026**
1936-1940	-5.30**	0.267**	0.026**	-6.20**	0.348**	0.024**
1931-1935	-5.62**	0.351**	0.011	-6.92**	0.457**	0.025**
1926-1930	-6.26**	0.292**	0.034**	-5.69**	0.276**	0.034**
1921-1925	-5.41**	0.226**	0.030**	-9.92**	0.596**	0.045**
1916-1920	-4.45**	0.165	0.033**	-5.97**	0.288*	0.039**

\*\* significant at 0.05 level

\* significant at 0.10 level



Table 7: Effects of Father's Schooling and Father's Occupation on the Transition Probability from Intermediate School Qualification to Upper Secondary School Qualification (Abitur) for Women and Men, Cohorts Born 1916-65 (Logit Model)

Birth Cohort	Women			Men		
	Intercept	Father's Schooling	Father's Occupation	Intercept	Father's Schooling	Father's Occupation
1961-1965	-3.41**	0.183*	0.016*	-3.52**	0.315**	0.004*
1956-1960	-2.85**	0.179**	0.009	-3.17**	0.157	0.025**
1951-1955	-2.35**	0.132*	0.017	-1.50	0.055	0.021**
1946-1950	-4.26**	0.341**	0.010	-2.07**	0.183	0.002
1941-1945	-2.34**	0.083	0.009	-3.81**	0.248*	0.013
1936-1940	-4.67**	0.193*	0.013	-1.92	0.136	0.008
1931-1935	-9.36**	1.011**	0.062**	-3.71**	0.185	0.028
1926-1930	-5.83**	0.441**	0.004	-1.70	0.147	0.005
1921-1925	-2.21	0.093	0.028	-3.54**	0.007	0.058
1916-1920	-0.718	0.139	0.020	0.35	0.049	0.006

\*\* significant at 0.05 level

\* significant at 0.10 level

Table 8: Effects of Father's Schooling and Father's Occupation on the Transition Probability from Upper Secondary School Qualification (Fachhochschulreife or Abitur) to Professional College Qualification or University Degree for Women and Men, Cohorts Born 1916-60 (Logit Model)

Birth Cohort	Women			Men		
	Intercept	Father's Schooling	Father's Occupation	Intercept	Father's Schooling	Father's Occupation
1961-1965	-	-	-	-	-	-
1956-1960	-1.68*	0.048	0.025**	-1.56*	0.080	0.002
1951-1955	-2.60**	0.321**	0.016	-1.03	0.661	0.029**
1946-1950	-1.56	0.091	0.008	0.01	0.001	0.007
1941-1945	-0.57	0.031	0.001	0.92	0.014	0.001
1936-1940	-5.74	0.356	0.005	0.15	0.222	0.044**
1931-1935	-6.94	0.673*	0.044	-8.34	0.720	0.014
1926-1930	0.39	0.333	0.034*	-1.20	0.050	0.003
1921-1925	-4.83	0.474	0.028	-5.77	0.666**	0.050
1916-1920	-14.78	1.745	0.082	-2.91	0.185	0.001

\*\* significant at 0.05 level

\* significant at 0.10 level



Table 9: Effects of Father's Schooling and Father's Occupation on the Transition Probability from Lower Secondary School Qualification and Intermediate School Qualification to Vocational Training for Women and Men, Cohorts Born 1916-65 (Logit Model)

Birth Cohort	Women			Men		
	Intercept	Father's Schooling	Father's Occupation	Intercept	Father's Schooling	Father's Occupation
1961-1965	1.06	0.042	0.012	2.44**	0.047	0.022*
1956-1960	0.33	0.072	0.022	2.19	0.018	0.013
1951-1955	0.71	0.011	0.007	0.17	0.282*	0.016
1946-1950	-1.35	0.155*	0.013	0.58	0.021	0.038*
1941-1945	-2.13	0.348**	0.007	3.09*	0.025	0.006
1936-1940	-2.63	0.206**	0.015	-1.05	0.165	0.024*
1931-1935	-4.14	0.301**	0.016	-2.49*	0.305**	0.017
1926-1930	-2.83	0.240**	0.007	-0.78	0.185	0.012
1921-1925	-2.72	0.256**	0.006	-0.72	0.412**	0.027
1916-1920	-3.07	0.242**	0.009	-2.50	0.414**	0.001

\*\* significant at 0.05 level

\* significant at 0.10 level







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